DOT STRATEGIC GOAL: MOBILITY

Shape America's future by ensuring a transportation system that is accessible, integrated, efficient, and offers flexibility of choices.

DOT's program activities impact our Nation's mobility through a number of common interventions and actions: direct operations (air traffic control or vessel traffic services), infrastructure investment (funding for the National Highway System, grants for transit improvement, and grants for airport improvement), rulemaking (where the adoption of new standards improves the efficiency of transportation), technology (fostering new materials and technologies to enhance mobility), and education (public awareness of transportation alternatives). Some of these interventions and actions reside entirely within the Federal Government, but most involve significant partnering with State and local authorities and with the transportation industry.

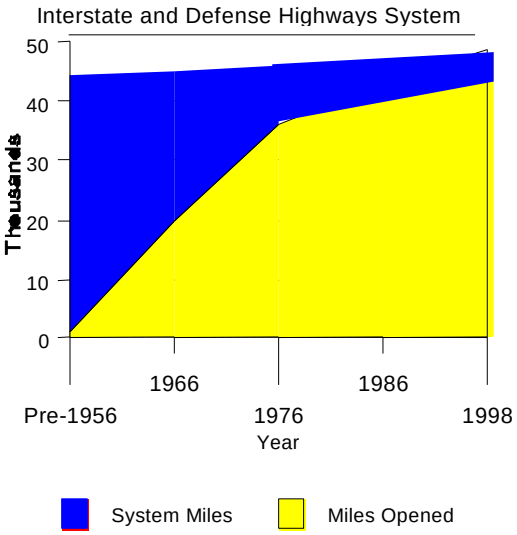
DOT provides national leadership in mobility, integrating the efforts of all partners to advance our common goal of ensuring a transportation system that is accessible, integrated, efficient, and offers flexibility of choices.

HIGHWAY MOBILITY

The program activity used to advance highway mobility reflects the efforts of FHWA. The Intelligent Transportation Systems (ITS) Joint Program Office, funded under FHWA, provides coordination across modal programs to enhance transportation efficiency. FHWA partners with State and other authorities to promote infrastructure development and improvement through direct funding, grants, and technical assistance. FHWA ensures efficient emergency response and restoration of damaged transportation infrastructure due to natural disasters or catastrophic events. FHWA also provides infrastructure support on federal lands.

Federal-Aid Highways and the National Highway System (NHS)

- ***Federal-Aid Highway (FAH) Program*** is the principal program for distributing Federal funds to the States to build and rehabilitate major highways and bridges. The States are reimbursed for eligible work after the work is performed. Federal-aid funding accounts for 99 percent of FHWA's budget authority.



This program provides for construction and preservation of the approximately 42,800 mile National System of Interstate and Defense Highways, generally financed on a 90 percent Federal, 10 percent State basis. It also provides for the improvement of approximately 800,000 miles of other Federal-aid primary, secondary, and urban roads and streets, with financing generally on a 75 percent Federal to 25 percent State basis. The FAH program also funds relocation assistance to those displaced by highway construction; improving access for the handicapped; encouraging the joint use and development of highway corridors; acquiring real property for right-of-way; encouraging disadvantaged business enterprises to participate in highway construction; and preserving public parks and recreation lands, wildlife and waterfowl refuges, historic sites, and the natural beauty of the countryside along highways.

Funding is specified by category in the highway authorization Acts. The major programmatic categories are:

- ***National Highway System (NHS)*** funds construction or reconstruction on about 155,000 miles of the principal highways in the Nation.

  The NHS was created by an Act of Congress in FY 1996. The 155,000 miles were designated in consultation with the States. In FY 1998, total obligations incurred by States for Federal-aid were $3.731 billion and the apportionment of Federal-aid amounted to $4.112 billion.

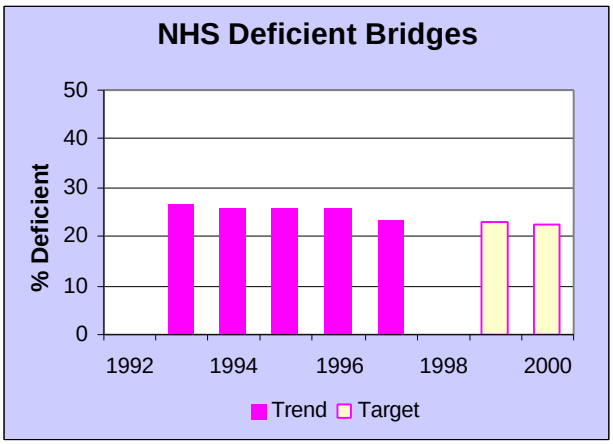
- ***Surface Transportation Program (STP)*** funds a flexible program that allows use of highway funds for a wide range of activities, including transit, safety and transportation enhancements which encompass numerous environmentally-related activities, and bicycle-pedestrian accommodations.

- ***Interstate Construction (IC)*** funds completion of the Interstate Highway System. Currently, 40 States have opened all designated Interstate mileage to traffic. Nationwide, 42,775 miles or 99.9 percent of the 42,795 mile system is open to traffic.

- ***Interstate Maintenance*** funds rehabilitating, resurfacing, restoring and reconstructing older segments of the Interstate Highway.

- ***Congestion Mitigation and Air Quality Improvement Act (CMAQ)*** funds environmental mitigation measures in the Clean Air Act non-attainment areas and STP activities in other areas. It is intended to reduce congestion and improve air quality. From 1992, the initial year authorized, to 1998, authorizations have grown from $340 million to over $1.193 billion annually. The CMAQ program offers States flexibility to fund a wide range of projects--the largest share thus far is funding transit projects (46.8 percent), followed by traffic flow (30.9 percent).

- ***Bridge Replacement and Rehabilitation (BRR)*** funds construction or repair on any bridge. The bridge inventory system has disclosed that for FY 1998 of all the bridges inventoried which are not on the Federal-aid System, 22.3 percent are structurally deficient and 12.3 percent obsolete; on the National Highway System, 6.9 percent are structurally deficient and 16.2 percent are obsolete; and on all other Federal-aid systems, 12.4 percent are structurally deficient and 13.8 percent are obsolete.



Performance Indicator: Reduce the percentage of bridges on the NHS that are deficient.

2000 Goal: 22.5 percent

1999 Goal: Less than 22.8 percent

1998 Performance: 23.1 percent

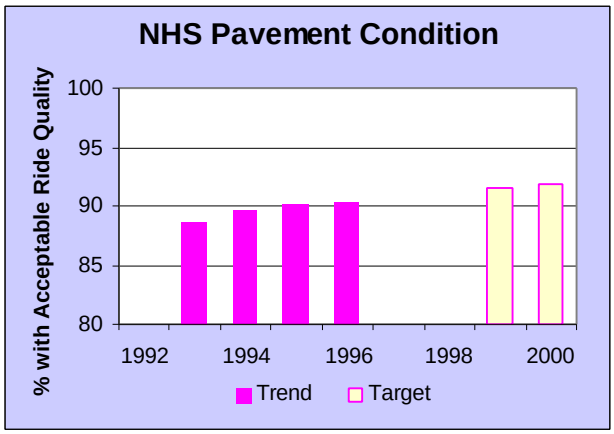
1997 Performance: 23.4 percent

To ensure that the percent of structurally deficient and obsolete bridges grows no larger, it is estimated that $5.2 billion of maintenance would be required each year for the next 15 years.

These six program categories account for about 79 percent ($117.4 billion) of the $142.5 billion for highways authorized by ISTEA and TEA-21 for 1992 through 1998. Much of the remainder of the authorized funding is for special interest projects ($8.8 billion), special State allocations to balance the money flowing into and out of the HTF from each of the States ($17.7 billion), and for several other miscellaneous categories.

America's mobility depends on the condition, service ability and structural integrity of the highway infrastructure, yet there is no national standard for measuring and reporting this information for highway pavement. In 1998, FHWA worked with American Association of State Highway and Transportation Officials (AASHTO) to implement pavement condition protocols (developed in FY 1997) in at least 5 States. FHWA and AASHTO have developed the "AASHTO Provisional Standards for Pavement Condition Data Collection," a method for the States to collect data on pavement rutting, cracking, faulting and roughness.

In preserving and enhancing the infrastructure of Federal-Aid Highways, FHWA continues to work closely with its partners and customers within DOT, in other Federal Agencies, and at the State and local levels of government to carry out the following activities and initiatives.



Performance Indicator: Increase percentage of kilometers (miles) on the NHS that meet the pavement performance standards for acceptable ride quality.

2000 Goal: Increase the percentage to 91.8 percent

1999 Goal: Increase the percentage to 91.5 percent

1996 Performance: 90.4 percent

Pavement condition affects traffic speed, vehicle operating cost, and safety. Improved condition makes travel safer and more efficient. The goal for FY 1999 will be influenced by previous years' funding, and by the funding and activity of State and local authorities. Increasing vehicle miles traveled will accelerate the deterioration of pavement, making this goal a challenge to achieve.

Other Programs

- ***Federal Lands Highway Program*** provides Highway Trust Fund (HTF) financing of the construction and improvement of Indian reservation roads, parkways and park roads, and public lands highways, including forest highways and discretionary public land highway funding. FHWA provides the direct Federal resources to manage this program in conjunction with the Departments of Interior and Agriculture.

  This program also provides direct construction management experience for persons in the FHWA engineering training program. In total, about $3.1 billion was provided in ISTEA and TEA-21 for this program. FY 1998 authorization was $536 million.

  In general, projects to be funded each year are selected by the Federal agency with jurisdiction over the Federal lands involved (i.e., the National Park Service with respect to parkways and park roads, the Forest Service for forest highways, and the Bureau of Indian Affairs/Tribal Governments for Indian reservation roads).

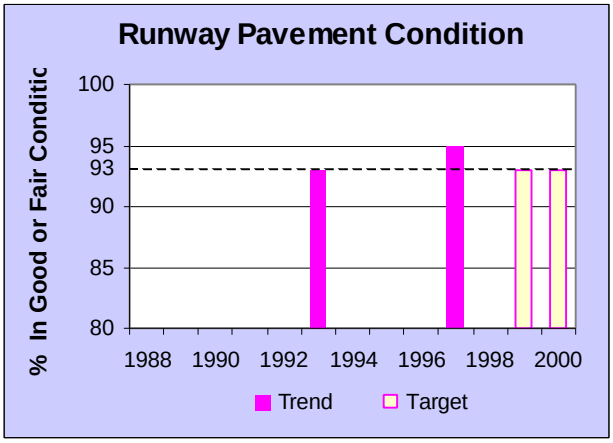
AVIATION MOBILITY

FAA seeks to improve the safe movement of people and goods through integrated processes. FAA manages and supports the operations, facilities, and equipment that provide the air traffic services of the NAS. FAA continues to provide the leadership and support necessary to plan, develop and maintain a system of airports in the U.S. to efficiently transport people and goods by air. FAA further develops and validates technologies, systems, designs, and procedures that directly support DOT's goal of improving mobility through an efficient, safe and broadly based aviation system.

Airport Improvement Program

Maintaining and rehabilitating runways costs less than total reconstruction of runways. Since FY 1995, Airport Improvement Program (AIP) grant recipients have been required to show evidence of an airport maintenance management program, including pavement maintenance.

Although runway rehabilitation is among the highest priorities of FAA's AIP, recipients of AIP grants may use those federal dollars for purposes other than runways. In addition, airports are reluctant to spend their own funds for runway maintenance, when grants are available to rehabilitate deteriorated runways.



Performance Indicator: Maintain in good or fair condition runway pavements at commercial service airports and reliever airports, as well as, selected general aviation airports.

1999 Goal: Maintain at least 93 percent of runway pavements in satisfactory condition.

1997 Performance: 93 percent.

Based on past years' averages, approximately 24 percent of available AIP grant funds will be directed toward runway construction projects. An AIP demonstration program is underway to fund crack sealing at non-primary airports.

Airport Accessibility

Developing aircraft approaches to runways requires accurate survey information for airport runway location and any obstacles near the flight path for approach. To use the approaches, aircraft will have to be equipped with Global Positioning System (GPS) receivers and pilots will require appropriate training. To maximize the benefits to aviation users, FAA will need to develop approaches for airports that have electronic aids and those that don't.

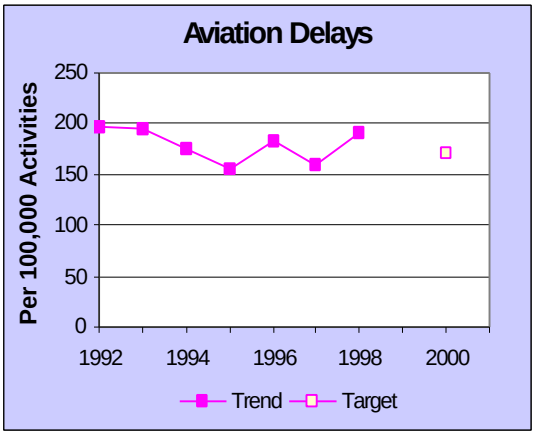
FAA is using automated tools to incorporate airport and obstruction data into the printed approach plates used by pilots. A large number of approaches is being developed each year to ensure that precision approach guidance can be used.

In 1998, 531 GPS procedures were developed, 528 were successfully flight inspected, and 516 were published for operational use, bringing the nationwide total to 1484 standard published instrument approach procedures (SIAPS).

The FAA has identified approximately 4,100 runway ends for which satellite-based approaches will be developed through a combination of GPS, wide area augmentation systems (WAAS), and local area augmentation systems (LAAS).

AIR TRAFFIC CONTROL (ATC) SERVICES

FAA manages and supports the operations, facilities and equipment that provide the air traffic services of the NAS. FAA also continues to provide the leadership and support necessary to plan, develop and maintain a system of airports in the U.S. that efficiently transports people and goods by air. FAA further develops and validates technologies, systems, designs, and procedures that directly support an efficient and safe aviation and space transportation system.



Performance Indicator: Reduce the rate air travel delays by 5.5 percent from 1992-1996 baselines.

2000 Goal: Reduce the number to 171 per 100,000 activities.

1992-96 Performance: 181 delays per 100,000 activities.

Capacity-related delays are most prevalent at large hub airports that have significant constraints on increasing runway capacity. Equipment failures, volume of air traffic, and runway closures are other significant causes of delays.

MARITIME MOBILITY

MARAD, USCG, FHWA, and FRA foster partnerships to identify and develop infrastructure improvements to move freight more efficiently, including improvements in navigation channels and landside access routes to ports and intermodal freight transport systems and partnering with industry and other government organizations reduce barriers to intermodal transportation through adoption of national/international standards.

The USCG provides navigation systems for U.S. waterways, maintains an Aids to Navigation servicing fleet and infrastructure to support a network of floating and fixed aids to navigation; operates and maintains radio-aids to navigation; and operates Vessel Traffic Services in 8 U.S. ports. Additionally, the USCG regulates the construction, maintenance, and operation of railroad, road and highway bridges across navigational waters.

- ***Aids to Navigation Program*** operates and maintains 50,000 Aids to Navigation. These aids consist of both short range and long range aids. Short range aids to navigation such as buoys, signals and lights (including lighthouses) are established and maintained by a fleet of 37 seagoing and coastal buoy tenders. This fleet will be reduced to 30 during the next few years as a new generation of buoy tenders become operational.

  The long range radio-navigation transmitters include Loran and the Differential Global Positioning System.

  The Aids to Navigation Program measure bears on the level of mobility through navigable waterways. It is influenced by program effort, reliability of equipment, and personnel performance. The goal of 99.7 percent lies well above traditional levels of performance, which have ranged between approximately 98.2 percent and 99.2 percent for the last four years. Future measures may center more directly on movement of commerce, or accident prevention.

- ***Ice Operations Program*** uses large polar icebreakers to support the National Science Foundation and Department of Defense icebreaking requirements in the Arctic and Antarctic. Domestic icebreakers facilitate U.S. maritime transportation through ice-laden domestic waters.

  The USCG is the lead Federal agency in managing and operating the Nation's icebreaker fleet.

RAIL MOBILITY

FRA supports National Railroad Passenger Corporation (AMTRAK) as it progresses towards operating self-sufficiency, develops technologies to support high-speed rail, and conducts research and development to support the safe expansion of capacity and improve the performance of the U.S. rail system. FRA is also engaged in the preparation of comprehensive Transportation Plans for the Northeast Corridor (NEC) with Amtrak, commuter operators, State Departments of Transportation and freight railroads. These Plans will continue to analyze capital investment options to insure that intercity passenger trains achieve trip-time goals established by legislation, while at the same time adding a capacity to allow for continued growth in commuter operations.

National Railroad Passenger Corporation (Amtrak)

- ***Grants to the National Railroad Passenger Corporation (Amtrak) Program*** will assist Amtrak's move toward financial stability and very high-quality passenger service. Amtrak was established in 1970 through the Rail Passenger Service Act and is operated and managed by members appointed by the Executive Branch of the Federal Government.

  The Amtrak Board of Directors, led by the Department of Transportation, and the Corporation's managers are committed to reducing Amtrak's net operating loss to zero while maintaining a national passenger rail system. Achieving this goal will require Amtrak to continue its capital investments, improve operating efficiency, increase revenues, provide a higher quality of service, and operate a

system that reflects sound market and economic analysis.

As part of the program, FRA evaluates Amtrak's quarterly and year-to-date financial and service performances and projected year-end progress toward attaining a goal of zero Federal operating subsidy by the year 2002. Operating Grants to Amtrak in 1998 totaled $344,000,000 and are derived from general fund appropriations.

The FY 1998 funding is consistent with FRA and DOT's commitments and is demonstrated by Amtrak's efforts to improve performance. FRA has established performance goals that will measure Amtrak progress towards attaining their goals.

Amtrak FY 1998 Performance

Measurements	FY 1998 Goals	FY 1998 Actuals*	Results
Service Quality:			
On-Time performance	84.8%	78.6%	-6.2%
Customer Satisfaction Index	86.0%	84.0%	-2.0%
Complaint Index	80.0%	79.0%	-1.0%
Injuries (reduce 15% per year)	1927	1810	117 fewer injuries
Financial:			
Passenger Miles (million)	5,384	5334	-0.9%
Passenger Revenues**/ (million)	$1,025.8	$1,001.0	-$24.8
Total Revenues (million)	$1,766.2	$1,711.2	-$54.4
Yield (cents)	18.4	17.8	-3.3%
Budget Results (million)	($98.5)	($104.0)	-$5.5
Operating Results	1.48	1.48	0%

*/Represent Amtrak's 12-months preliminary estimates
**/ Excludes 403(b) State payments for capital maintenance.

FRA tracks the findings of the regular scheduled Amtrak customer satisfaction surveys of Federal capital investment in passenger rail mobility – the index components include on-time performance, comfort, ride, quality, and equipment condition. These findings are expressed as a Customer Satisfaction Index (CSI). CSI provides a leading indicator of passenger demand and revenues, providing an indication of Amtrak's progress towards operating self-sufficiency (a key desired outcome of Federal capital investment). From an index baseline of 76 percent in FY 1995, it is expected that the CSI will improve to 87 percent by FY 1999. The FY 1998 goal is 86 percent. The preliminary CSI for FY 1998 is 84 percent. Based on this preliminary data Amtrak is expected to reach its goal of 86 percent for the 1998 calendar year.

Northeast Corridor Improvement Program (NECIP)

- ***Northeast Corridor Improvement Program (NECIP)*** began as a $2 billion program to upgrade Amtrak's main line between Washington, DC and Boston, MA. Amtrak's main line between Washington, DC and Boston, MA is divided into two segments-- Segment One: Washington, DC to New York City, NY and Segment Two: New York City, NY to Boston, MA. Upgrading the rail lines for these segments will help Amtrak improve trip-time and passenger capacity along the Northeast Corridor.

  FRA's current goal is to complete the NECIP by the year 2000 and ensure that it matches world standards. Part of the NECIP is to have Amtrak achieve its goal of a 3 hours trip-time between New York City, NY and Boston, MA by the year 2000. When this program is completed, rail passenger service along the entire 457 mile corridor

between Washington, DC and Boston, MA will rank among the premier rail service in the world.

An essential component of achieving 3-hour travel times between New York City, NY and Boston, MA is the introduction of tilting high-speed all-electric trainsets. Approximately 18 percent of fabrication work is completed and 99 percent of design work is completed. Full trainset testing will begin in January 1999.

The first high-speed trainset is due to begin limited revenue service in October 1999. Full revenue service over the entire Northeast Corridor is scheduled for July 2000. This schedule will permit the significant reduction of New York City, NY and Boston, MA trip-time, but achievement of the 3-hour performance goal will depend on factors beyond the trainset project.

Several construction projects have already been started along the corridor. These projects include track improvements, upgrades to control systems, fencing and grade crossing elimination, and improvement to service facilities and stations. Over 40 percent (New Haven to Boston segment) of the electrification needed to achieve 3-hour service between New York City, NY and Boston, MA is completed. Electrification of the total Northeast Corridor (New York to Boston segment) is on schedule to be completed during FY 1999. During FY 1998, FRA tracked Amtrak's work-season performance towards completing the Northeast Corridor. Based on preliminary data Amtrak is expected to meet its 1998 goals.

NECIP Performance 1998 Work Season	
Goals	**Work Season Performance***
Complete 14,000 Catenary Pole Foundations	12,498 Catenary Pole Foundations completed
Set 8000 Catenary Poles	6,611 Catenary Poles set
Set 5,700 Cantilever Arms	4,109 Cantilever Arms set
String 1,500,000 ft of Messenger & feeder Wire	1,239,217 ft of Messenger & Feeder Wire strung

*The FY 1998 work season includes data for the period January 1998 – July 1998.

TRANSIT MOBILITY

Transit investment improves the quality of life for over 80 million Americans who live in transit-intensive urbanized areas and many rural Americans who depend on transit for basic mobility. Ten million people rely on transit every day to get to jobs, schools, stores, and health care facilities. Another 25 million use transit less frequently, but on a regular basis. In many cases, the elderly, persons with disabilities, and the economically disadvantaged are the ones who most rely on transit for their basic mobility.

By providing basic mobility to millions of American workers, by contributing to the revitalization of urban neighborhoods, and by saving America approximately $15 billion a year in costs associated with traffic congestion, transit is proving to be a wise investment with multiple benefits to society.

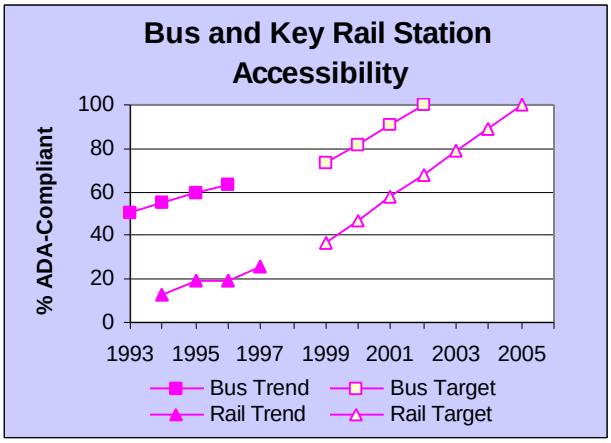
Accessibility

Eighty million Americans live in transit-intensive urban areas and benefit from transit. Among the Americans who use transit are the senior citizens who may be unable to drive automobiles. Americans who live below the poverty line also rely on transit as their

primary means of transportation. Nationally, only six percent of those on welfare own an automobile. Finally, transit is important to Americans with disabilities. Many of these individuals are unable to drive a car and need access to a dependable transit system.

- ***Americans With Disabilities Act (ADA).*** Since the ADA enactment in 1990, FTA has been working to make public transit bus, rail and paratransit service accessible to persons with disabilities. One major goal in this effort is to make the national fixed-route bus system 100 percent lift- or ramp-equipped by 2003. Prior to enactment in 1990, approximately 35 percent of the buses in the active fleet of over 50,000 transit vehicles were lift-equipped, and many of the lifts did not work.

  Since 1993, the percentage of accessible fleet buses has increased from 50 percent to 63 percent in 1996. By the end of 1999, nine years after enactment, the active fleet is projected to be approximately 73 percent lift or wheelchair ramp equipped. FTA will influence the goal through Federal transit infrastructure investments, which speeds the rate at which transit operators can transition to ADA compliant facilities and equipment.



Performance Indicator: Increase the percentage of bus fleet and key rail stations are compliant with the Americans with Disabilities Act.

2000 Goal: 82 percent of bus stations and 47 percent of key rail stations will be ADA compliant.

1999 Goal: 73 percent of buses will be accessible (lift or wheelchair- equipped) and 37 percent of key rail stations will be accessible.

1996 Performance: 63 percent of bus stations and 19 percent of key rail stations were ADA compliant.

Infrastructure Investment

- ***Average age of bus and rail fleets in years*** is one indicator of the condition of the rolling stock and transit infrastructure in general. It has limitations, however, as the age of rolling stock is not necessarily a clear indicator of condition. FTA is working on data that more directly measure the condition of rolling stock and facilities.

  For optimal performance, the average age of the bus and rail car fleets should be about 6 and 12.5 years, respectively. In 1996, the average ages of transit buses and rapid rail cars were 8.4 years and 20.1 years, respectively. Since there is a 2 to 4 year lag from the time an obligation is made to purchase a bus to its delivery to the transit operator, these figures indicate the increase in capital funding initiated in FY 1993 appears to be bringing down the average age of the bus fleet. Rail cars are replaced on a less consistent basis than buses due to the relative small size of the rapid rail fleet.

Performance Indicator: Reduce the average age of bus and railcar fleets in years.
2002: Achieve Motor Bus average age of 7.5 years or lower and maintain Rapid Rail Cars average at 22.6 years while sustaining or expanding service. 1996 Performance: 8.4 years was the average ages of Motor Buses and 20.1 years for Rapid Rail Cars. 1995 Performance: 8.1 years was the average averages of Motor Buses and 19.3 years was the age for Rapid Rail Cars.

Older transit vehicles provide less reliable service and comfort to passengers, and are less energy and pollution efficient. Older transit vehicles also have higher maintenance costs, so average age is a proxy for operating costs. The five-year trend line in age of rail fleet increased between 1991 and 1995; average age has been somewhat stable. DOT's goal is to maintain the average rail fleet age and achieve a lower average bus age.

Increased funding provided in TEA-21 will result in a slightly faster replacement of the motor bus fleet. However, because of a trend toward investing more heavily in bus facilities, we expect that additional funding will only have a modest effect on average fleet ages.